Description

The BAT42W and BAT43W are Schottky barrier diodes with low forward voltage drop, fast switching speed and low terminal capacitance. They are packaged in SOD-123 surfacemount form, optimized for automatic SMT assembly.

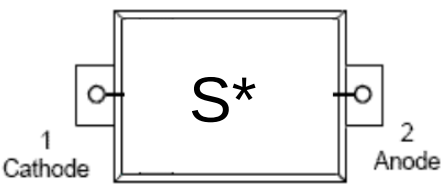
Features

- Low Forward Voltage Drop
- Fast Switching Time
- Low Reverse Terminal Capacitance
- SOD-123 Surface mount Package, suitable for automatic insertion

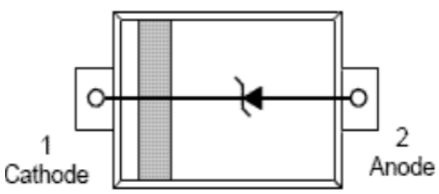
Application

- High speed Schottky barrier switching
- Signal rectification
- Low voltage clamping circuits

Marking Diagram



Circuit Diagram



Ordering information

DEVICE	PACKAGE
BAT42W BAT43W	3000/Tape & Reel

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Maximum Ratings (T_A=25℃)

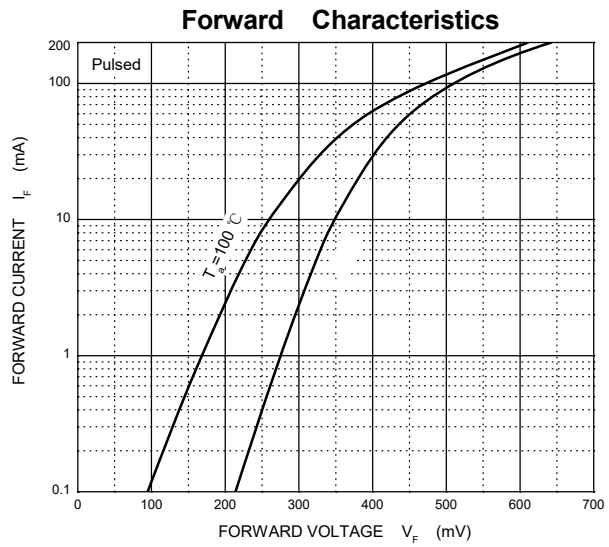
Parameter	Symbol	BAT42W/BAT43W	Unit
Peak Repetitive Peak Reverse Voltage Working Peak Reverse Voltag DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current	I_{FM}	200	mA
Repetitive Peak Forward Current @t<1.0s	I_{FRM}	500	mA
Non-repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	4.0	A
Power Dissipation	P_D	500	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200	℃/W
Operating Junction Temperature Range	T_J	-40 ~ +125	℃
Storage Temperature Range	T_{STG}	-55 ~ +150	℃

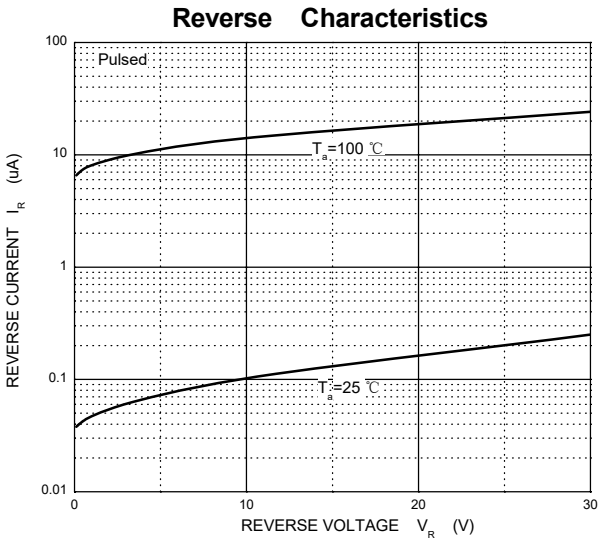
Electrical Characteristics (T_A=25℃)

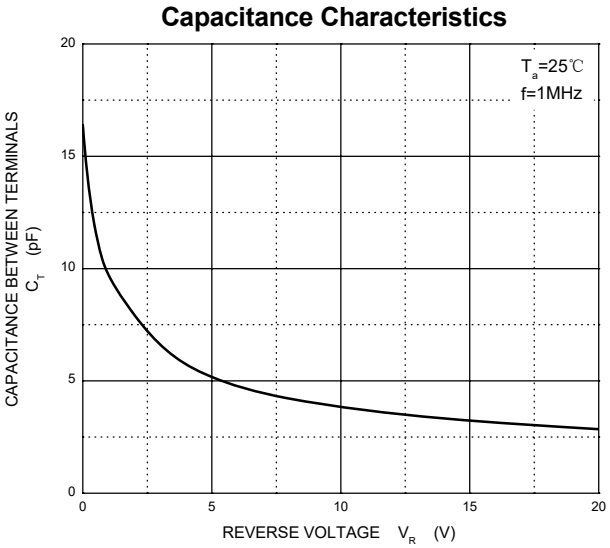
Parameter		Symbol	Min	Typ	Max	Unit	Conditions
Reverse breakdown voltage		$V_{(BR)}$	30			V	IR=10μA
Forward voltage	All Types	V_F			1.0	V	I_F=200mA
	BAT42W	V_F			0.4	V	I_F=10mA
	BAT42W	V_F			0.65	V	I_F=50mA
	BAT43W	V_F	0.26		0.33	V	I_F=2mA
	BAT43W	V_F			0.45	V	I_F=15mA
Reverse current		I_R			0.5	μA	V_R=25V
Capacitance between terminals		C_T			10	pF	V_R=1.0V,f=1.0MHz
Reverse recovery time		t_{rr}			5	ns	I_F=I_R=10mA Irr=0.1XI_R,R_L=100Ω

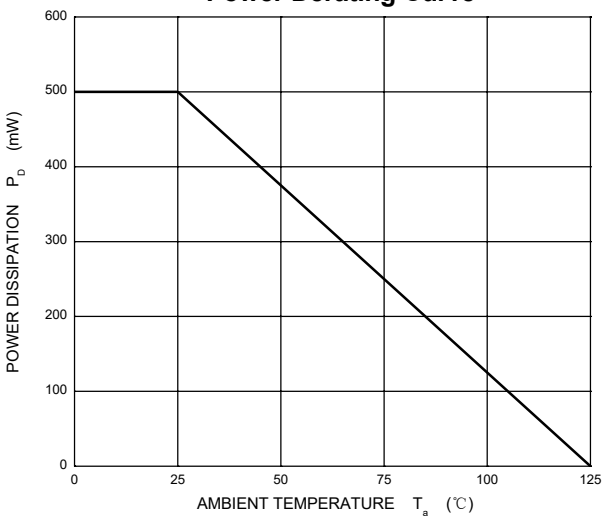
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Typical Performance Curves



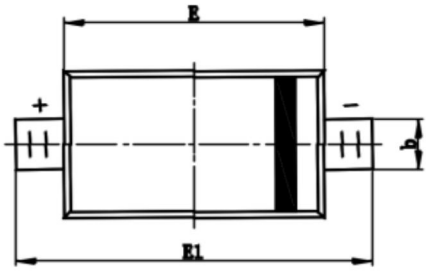


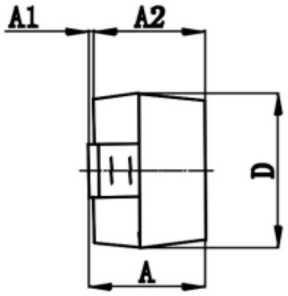


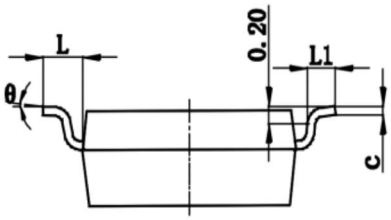


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SOT-123 Package Outline Dimensions

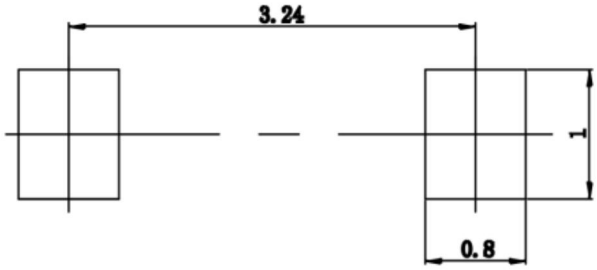






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOT-123 Suggested Pad Layout



Note:

1.controlling dimension:in millimeters.
2. General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

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